



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,316	07/13/2005	Hiromasa Tanobe	5259-054/NP	1761

27572 7590 02/28/2007  
HARNESSE, DICKEY & PIERCE, P.L.C.  
P.O. BOX 828  
BLOOMFIELD HILLS, MI 48303

EXAMINER
----------

SINGH, DALZID E

ART UNIT	PAPER NUMBER
----------	--------------

2613

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/542,316

Applicant(s)

TANOBE ET AL.

Examiner

Dalzid Singh

Art Unit

2613

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26 and 27 is/are allowed.
- 6) ☒ Claim(s) 1-5, 11 and 12 is/are rejected.
- 7) ☐ Claim(s) 6-10, 13-25, 28 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trezza (US Patent No. 6,889,010) in view of Yoo (US Patent No. 6,519,062).

Regarding claim 1, Trezza discloses a fiber optic communication system comprising:

a router that has N optical input ports (where N is an integer greater than or equal to 2) and N optical output ports, and that has a routing function that outputs to predetermined optical output ports in accordance with a wavelength of optical signals inputted to respective optical input ports, and M (where M is an integer no smaller than 2, nor greater than an integer N) network-node equipments connected via optical transmission paths so as to form a geometrically star-shaped physical star topology having the router in the center (see Fig. 5 and col. 13, lines 46-64 and col. 14, lines 64-67 to col. 15, lines 1-6),

wherein said network-node equipments comprise a device of wavelength switching that switches the wavelength of said optical signals in order to dynamically

change a logical network topology that indicates a geometrical form of routes of the optical signals used for transmitting/receiving data (see col. 15, lines 55-62 and col. 16, lines 1-17).

Trezza disclose star network comprising of router located at the center and differ from the claimed invention in that Trezza does not disclose that the router is arrayed waveguide grating (AWG). Yoo teaches the use of AWG router (see Figs. 8 and 9). Therefore, it would have been obvious to an artisan of ordinary skill in the art to replace the router of Trezza with the AWG router as taught by Yoo. One of ordinary skill in the art would have been motivated to do this in order to provide ultra-low latency router with increased total aggregate switching bandwidth and greater capacity.

Regarding claim 2, wherein said network-node equipments belong to at least one or more logical network topologies, and configure two or more mutually independent logical network topologies (see Figs. 9a-9c).

Regarding claim 3, wherein said wavelength switching device switches wavelengths of optical signals when connecting or transferring the network-node equipments belonging to a predetermined logical network topology, to another logical network topology (see Figs. 9a-9c and col. 16, lines 5-17).

Regarding claim 4, wherein a logical network topology is configured with two or more network-node equipments, and said wavelength switching device switches wavelengths of optical signals so that at a predetermined time, all of said two or more

network-node equipments configure a new logical network topology that is different from said logical network topology (see Figs. 9a-9c and col. 16, lines 5-17).

Regarding claim 5, wherein said logical network topology configures at least one kind of either: a ring-shaped logical network topology having geometrically a ring shape, a star-shaped logical network topology, and a mesh-shaped logical network topology having a mesh shape, or configures a logical network topology that is a combination of these (see Figs. 9a-9c and col. 16, lines 5-17).

Regarding claim 11, in view of the combination above, wherein said arrayed waveguide grating (AWG) has uniform-loss and cyclic-frequency (ULCF) (it would have been obvious if not inherent that the AWG as disclose by Yoo has a uniform loss and cyclic frequency in order that the signals characteristics are not altered from various input and outputs).

Regarding claim 12, in view of the combination above, wherein said network-node equipment has two different wavelength paths connected to said arrayed waveguide grating (AWG), and a ring-shaped logical network topology is formed as said logical network topology having two or more of said network-node equipments (see Figs. 9a-9c and col. 16, lines 5-17 of Trezza).

***Allowable Subject Matter***

3. Claims 26 and 27 are allowed.
4. Claims 6-10, 13-25 and 28-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

5. Applicant's arguments with respect to the claim have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DS  
February 23, 2007

DALZID SINGH  
PRIMARY EXAMINER

